

WHAT IS CLAIMED IS:

1. An image forming apparatus comprising:  
a plurality of developing devices, each of  
which includes a developer carrying member for  
5 carrying a developer to develop an electrostatic image  
formed on an image bearing member with a developer,  
and a developer regulating member for regulating the  
developer carried on said developer carrying member;  
common voltage applying means for applying  
10 voltages to said developer regulating members,  
wherein the voltages applied to said  
developer carrying members are variable independently  
from each other, and when at least one of said  
voltages varies, the voltage applied by said voltage  
15 applying means is capable of being changed.

2. An apparatus according to Claim 1, wherein at  
least when a plurality of developing devices are in  
operation, the voltages are applied to the developer  
20 carrying members associated with said developing  
devices in operation, and said developer regulating  
members of said developing devices in operation are  
supplied with the voltages by said voltage applying  
means.

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3. An apparatus according to Claim 1, wherein  
the voltages applied by said voltage applying means

are determined by respective voltages applied to said developer carrying members.

4. An apparatus according to Claim 1, wherein  
5 the voltages applied by said voltage applying means are determined on the basis of a maximum value and/or minimum value of the voltages applied to said developer carrying members.

10 5. An apparatus according to Claim 1, wherein the voltages applied by said voltage applying means are determined on the basis of an average of the voltages applied to said developer carrying members.

15 6. An apparatus according to Claim 1, wherein the voltages applied by said voltage applying means are determined such that potential difference between the voltage applied by said voltage applying means and a maximum value or a minimum value of the voltages  
20 applied to said developer carrying members, is within a predetermined range.

7. An apparatus according to Claim 1, wherein the voltage applied by said voltage applying means is  
25 determined such that potential differences between the voltages applied by said voltage applying means and the voltages applied to said developer carrying

members.

8. An apparatus according to Claim 1, wherein an assumed value of the voltage applied by said voltage  
5 applying means is determined on the basis of an average of the voltages applied to said developer carrying members, when a maximum potential difference between the assumed value and the voltages applied to said developer carrying members, is within a  
10 predetermined range, the assumed value is determined as being the voltage applied by said voltage applying means, and when the maximum potential difference is not within the predetermined range, the voltage applied by said voltage applying means is determined  
15 such that maximum potential difference is within the predetermined range, by changing the assumed value.

9. An apparatus according to Claim 8, wherein a determination is made as to such a voltage applied to  
20 said developer carrying members as to provide a minimum potential difference between the voltage applied by said voltage applying means and the voltages applied to said developer carrying members, and when the potential difference between the thus  
25 determined voltage and the assumed value is not within a predetermined range, the assumed value is changed so that said potential difference is within the

predetermined range.

10. An apparatus according to any one of Claims  
6-9, further comprising an ambience detecting means  
5 for detection an ambient condition, wherein said  
predetermined range is determined in accordance with  
an output of ambience detecting means.

11. An apparatus according to Claim 1, wherein a  
10 range of the voltages applied to said developer  
carrying members is limited within a predetermined  
range.

12. An apparatus according to Claim 11, wherein  
15 the voltages applications to developer carrying  
members are determined such that potential differences  
between the voltages applied by said voltage applying  
means and the voltage applied by said developer  
carrying members are within a predetermined range.

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13. An apparatus according to Claim 1 or 10. An  
apparatus according to any one of Claims 6-9, further  
comprising an ambience detecting means for detection  
an ambient condition, wherein the voltage applied by  
25 said voltage applying means is determined in  
accordance with an output of ambience detecting means.

14. An apparatus according to Claim 1, wherein each of the voltages applied to said developer carrying members are changeable in accordance with a result of detection of densities of a reference images  
5 formed by the respective said developer carrying members.

15. An apparatus according to Claim 14, wherein the voltages applied by said voltage applying means  
10 are determined in accordance with a result of detection of densities of the reference images.

16. An apparatus according to Claim 14, wherein the density of the reference image is detected by  
15 formation of the image on said image bearing member or an image transferred onto a transfer member from said image bearing member.

17. An apparatus according to Claim 1, wherein  
20 the voltages which are applied to developer carrying members and which are variable are DC voltages.

18. An apparatus according to Claim 1, further comprising a plurality of image bearing members, which  
25 are developed by said developer carrying members, respectively.

19. An apparatus according to Claim 1, wherein one of said developing devices is provided, together with said image bearing member, in a process cartridge which is detachably mountable to a main assembly of an  
5 image forming apparatus.

20. An image forming apparatus comprising:  
a plurality of developing devices, each of which includes a developer carrying member for  
10 carrying a developer to develop an electrostatic image formed on an image bearing member with a developer, and a developer regulating member for regulating the developer carried on said developer carrying member;  
common voltage applying means for applying  
15 voltages to said developer regulating members,  
wherein each of the voltages applied to said developer carrying members are changeable, and the voltages applied by said voltage applying means are determined on the basis of the respective voltages  
20 applied to said developer carrying members.

21. An apparatus according to Claim 20, wherein at least when a plurality of developing devices are in operation, the voltages are applied to the developer  
25 carrying members associated with said developing devices in operation, and said developer regulating members of said developing devices in operation are

supplied with the voltages by said voltage applying means.

22. An apparatus according to Claim 20, wherein  
5 the voltages applied by said voltage applying means  
are determined on the basis of a maximum value and/or  
minimum value of the voltages applied to said  
developer carrying members.

10 23. An apparatus according to Claim 20, wherein  
the voltages applied by said voltage applying means  
are determined on the basis of an average of the  
voltages applied to said developer carrying members.

15 24. An apparatus according to Claim 20, wherein  
the voltages applied by said voltage applying means  
are determined such that potential difference between  
the voltage applied by said voltage applying means and  
a maximum value or a minimum value of the voltages  
20 applied to said developer carrying members, is within  
a predetermined range.

25 25. An apparatus according to Claim 20, wherein  
the voltage applied by said voltage applying means is  
determined such that potential differences between the  
voltages applied by said voltage applying means and  
the voltages applied to said developer carrying

members.

26. An apparatus according to Claim 20, wherein  
an assumed value of the voltage applied by said  
5 voltage applying means is determined on the basis of  
an average of the voltages applied to said developer  
carrying members, when a maximum potential difference  
between the assumed value and the voltages applied to  
said developer carrying members, is within a  
10 predetermined range, the assumed value is determined  
as being the voltage applied by said voltage applying  
means, and when the maximum potential difference is  
not within the predetermined range, the voltage  
applied by said voltage applying means is determined  
15 such that maximum potential difference is within the  
predetermined range, by changing the assumed value.

27. An apparatus according to Claim 26, wherein a  
determination is made as to such a voltage applied to  
20 said developer carrying members as to provide a  
minimum potential difference between the voltage  
applied by said voltage applying means and the  
voltages applied to said developer carrying members,  
and when the potential difference between the thus  
25 determined voltage and the assumed value is not within  
a predetermined range, the assumed value is changed so  
that said potential difference is within the



predetermined range.

28. An apparatus according to any one of Claims  
24-27, further comprising an ambience detecting means  
5 for detection an ambient condition, wherein said  
predetermined range is determined in accordance with  
an output of ambience detecting means.

29. An apparatus according to Claim 20, further  
10 comprising an ambience detecting means for detection  
an ambient condition, wherein the voltage applied by  
said voltage applying means is determined in  
accordance with an output of ambience detecting means.

15 30. An apparatus according to Claim 20, wherein  
each of the voltages applied to said developer  
carrying members are changeable in accordance with a  
result of detection of densities of a reference images  
formed by the respective said developer carrying  
20 members.

31. An apparatus according to Claim 30, wherein  
the density of the reference image is detected by  
formation of the image on said image bearing member or  
25 an image transferred onto a transfer member from said  
image bearing member.

32. An apparatus according to Claim 20, wherein the voltages which are applied to developer carrying members and which are variable are DC voltages.

5        33. An apparatus according to Claim 20, further comprising a plurality of image bearing members, which are developed by said developer carrying members, respectively.

10       34. An apparatus according to Claim 20, wherein one of said developing devices is provided, together with said image bearing member, in a process cartridge which is detachably mountable to a main assembly of an image forming apparatus.

15       35. An image forming apparatus comprising:  
         a plurality of developing devices, each of which includes a developer carrying member for carrying a developer to develop an electrostatic image  
20       formed on an image bearing member with a developer, and a developer regulating member for regulating the developer carried on said developer carrying member;  
         common voltage applying means for applying voltages to said developer regulating members,  
25       wherein each of the voltages applied to said developer carrying members are changeable in accordance with a result of detection of densities of

a reference images formed by the respective said developer carrying members, and the voltages applied by said voltage applying means are determined in accordance with a result of detection of densities of  
5 respective reference images.

36. An apparatus according to Claim 35, wherein at least when a plurality of developing devices are in operation, the voltages are applied to the developer  
10 carrying members associated with said developing devices in operation, and said developer regulating members of said developing devices in operation are supplied with the voltages by said voltage applying means.

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37. An apparatus according to Claim 35, wherein the voltages applied by said voltage applying means are determined such that potential difference between the voltage applied by said voltage applying means and  
20 a maximum value or a minimum value of the voltages applied to said developer carrying members, is within a predetermined range.

38. An apparatus according to Claim 35, wherein  
25 the voltage applied by said voltage applying means is determined such that potential differences between the voltages applied by said voltage applying means and

the voltages applied to said developer carrying members.

39. An apparatus according to Claim 37 or 38,  
5 further comprising an ambience detecting means for detection an ambient condition, wherein said predetermined range is determined in accordance with an output of ambience detecting means.

10 40. An apparatus according to Claim 35, further comprising an ambience detecting means for detection an ambient condition, wherein the voltage applied by said voltage applying means is determined in accordance with an output of ambience detecting means.

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41. An apparatus according to Claim 35, wherein the density of the reference image is detected by formation of the image on said image bearing member or an image transferred onto a transfer member from said  
20 image bearing member.

42. An apparatus according to Claim 35, wherein the voltages which are applied to developer carrying members and which are variable are DC voltages.

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43. An apparatus according to Claim 35, further comprising a plurality of image bearing members, which

are developed by said developer carrying members,  
respectively.

44. An apparatus according to Claim 35, wherein  
5 one of said developing devices is provided, together  
with said image bearing member, in a process cartridge  
which is detachably mountable to a main assembly of an  
image forming apparatus.

10 45. An image forming apparatus comprising:  
a plurality of developing devices, each of  
which includes a developer carrying member for  
carrying a developer to develop an electrostatic image  
formed on an image bearing member with a developer,  
15 and a developer regulating member for regulating the  
developer carried on said developer carrying member;  
a common voltage applying means for applying  
a voltage to said developer regulating member!;.

20 46. An apparatus according to Claim 45, further  
comprising a plurality of voltage applying means for  
applying voltages to said developer carrying members,  
and the voltages applied to said respective said  
developer carrying member are independently  
25 changeable.